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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/161,584	09/28/1998	GUY NATHAN	871-52	7842

7590 03/04/2002

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EXAMINER

PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 03/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/161,584

Applicant(s)

NATHAN, GUY

Examiner

Brian T. Pendleton

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 1998.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: there are section headings which are missing, such as "Brief Description of the Figures".

Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show any of the functions attributed to the numbered boxes as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Boxes with only numbers and no description of their purpose is not acceptable.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 recites the limitation "the multiplexed digital signals" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, US Patent 5,757,936 in view of Schotz et al, US Patent 5,832,024. Lee discloses an audio distribution system comprising digital audio source 14, processor 20, cables 20a and 26a, power outlets 22 and 28, and AC power line 24. The audio signals are processed in unit 26 and output by the speakers 28 in accordance with the Schotz '570 reference which is incorporated into Lee's specification. As a result, the system described by Lee inherently comprises compression means, a modulator circuit, expanding means and a demodulator circuit. The modulation described by Lee is directed to frequency modulation (FM) and not to phase quadrature modulation. Schotz et al '024 discloses a digital wireless speaker system comprising digital audio source 26 and transmitter digital audio circuitry 34 which contains a digital interface transmitter 62, data packet interleaver 100, I-Q generator 102. As disclosed in column 8 lines 1-26, the interface 62 provides serial data for transmission. The modulator 103 uses quadrature phase shift-keying (QPSK) to transmit the digital signals. The use of QPSK improves performance and reduces bandwidth requirements. One of ordinary skill in the art would have been motivated to use phase quadrature modulation for transmitting digital signals since its

advantages were clearly described by Schotz et al '024. Further, the medium of transmission would have been irrelevant and QPSK was equally applicable to free space as it was to AC power line transmission. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to apply QPSK modulation, per the teachings of Schotz et al '024 in the invention of Lee, meeting claim 1.

Claims 2, 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Schotz et al as applied to claim 1 above, and further in view of Anderson et al, US Patent 5,406,634. The combination of Lee and Schotz et al disclose a wireless transmission system through AC power lines for loudspeakers comprising compression means for compressing the digital audio signal, modulation means, serialization means, demodulation means and expanding means. However, the combination does not disclose inserting a receiving address into the serial digital data and comparing the address with an address stored in an intended loudspeaker for reproduction. Such a feature was taught by Anderson et al. In the abstract, Anderson et al disclose a speaker system which uses control data transmitted with the digital audio data which specifies a selected speaker which is to play the audio data. In addition, Anderson et al teach that different channels of audio data are multiplexed on a bus to the speakers (per claim 3, see figure 1). This feature was advantageous because it allowed a central station to deliver audio to only selected speakers without broadcasting the audio to unintended or unnecessary speakers. Therefore, one would have been motivated to use this feature in the combination of Lee and Schotz et al. Regarding claim 8, Anderson et al disclose that control data from transmitter 16 can

control each speaker's volume, equalization, sound delay, etc. Per claim 9, Lee discloses a converter 16 for converting an analog signal into a digital signal.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Schotz et al as applied to claim 1 above, and further in view of Brugger, US Patent 5,636,276. The combination of Lee and Schotz et al does not disclose an encryption circuit for coding the digital audio data prior to transmission and a decryption circuit for decoding the digital audio data at the receiving end (speakers). It was well known at the time of invention that encryption circuits and methods were used to ensure safe transportation of data without unauthorized access. Such a feature was advantageous because it protected copyrights. That feature was well known in the art of music distribution as exemplified by Brugger (see abstract, figure 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use encryption, per the teachings of Brugger, in the combination of Lee and Schotz et al, meeting claim 4. As to claims 5-7, the structure of the audio data fields is one of obvious design choice to one of ordinary skill; illustrated in figure 3 and described in column 4 line 41 – column 5 line 19 of Brugger, digital audio data can be arranged to include encryption data, billing information and other useful information.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wakai et al, US Patent 5,953,429.

Application/Control Number: 09/161,584
Art Unit: 2644

Page 6

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Brian Tyrone Pendleton
February 19, 2002



FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700